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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,469	06/23/2005	Setsuo Agawa	Q88791	2977
65565 7590 01/24/2008 SUGHRUE-265550 2100 PENNSYLVANIA AVE. NW WASHINGTON, DC 20037-3213			EXAMINER GREENE, JASON M	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/540,469

Applicant(s)

AGAWA ET AL.

Examiner

Jason M. Greene.

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 6/23/05; 3/30/07; 11/29/07.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application Publication JP 8-155233.

JP 8-155233 discloses a filter element (2) for separating solid particles from a fluid containing them, wherein ultrahigh molecular weight polyethylene fine powders, having an average molecular weight of 1,000,000 to 5,000,000 and a bulk specific gravity of 0.30 are the aggregate of primary particles, and are shaped to have voids in a part where the primary particles are connected, are filled into the pores on the surface of a filter element base made of an open-cell porous molded body prepared by heating and sintering synthetic resin powders, wherein the ultrahigh molecular weight polyethylene fine powders have an average particle size of 3 to 50  $\mu\text{m}$  in Figs. 1 and 2, the English language abstract, and paragraphs [0004] to [0015] of the English language machine translation. While JP 8-155233 is silent as to the specific size of the voids formed by the UHMW polyethylene particles, the voids will inherently be within the

claimed range of 1 to 5  $\mu\text{m}$  since the UHMW particles have the same properties as the claimed particles.

JP 8-155233 does not teach the bulk specific gravity of the UHMW polyethylene particles being 0.15 to 0.29, but one of ordinary skill in the art would have recognized that the bulk specific gravity of 0.30 taught by JP 8-155233 could be readily adjusted to 0.29 since the values are so close to each other.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application Publication JP 8-155233.

JP 8-155233 discloses a method for producing the recited filter element wherein the polyethylene particles are coated with an aqueous suspension comprising water and a water dispersible binder and filled into the pores on the surface of a filter element base made of an open-cell porous molded body prepared by heating and sintering synthetic resin powders in Figs. 1 and 2, the English language abstract, and paragraphs [0004] to [0015] of the English language machine translation.

As noted above, JP 8-155233 does not teach the bulk specific gravity of the UHMW polyethylene particles being 0.15 to 0.29, but one of ordinary skill in the art would have recognized that the bulk specific gravity of 0.30 taught by JP 8-155233 could be readily adjusted to 0.29 since the values are so close to each other.

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herding et al. (US 5,547,481).

Herding et al. '481 discloses a filter element (22) for separating solid particles from a fluid containing them, wherein ultrahigh molecular weight polyethylene fine powders, having an average molecular weight of 2,000,000 to 6,000,000 (see especially col. 4, line 66 to col. 5, line 3) and a bulk specific density of 300 g/l (specific gravity of 0.30) are the aggregate of primary particles, and are shaped to have at least some voids of 1 to 5  $\mu\text{m}$  in a part where the primary particles are connected, are filled into the pores on the surface of a filter element base made of an open-cell porous molded body prepared by heating and sintering synthetic resin powders, wherein the ultrahigh molecular weight polyethylene fine powders have an average particle size of 63 to 250  $\mu\text{m}$  in Figs. 1-12 and col. 1, line 42 to col. 9, line 25.

Herding et al. '481 does not teach the bulk specific gravity of the UHMW polyethylene particles being 0.15 to 0.29, but one of ordinary skill in the art would have recognized that the bulk specific gravity of 0.30 taught by herding et al. '481 could be readily adjusted to 0.29 since the values are so close to each other.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application Publication JP 8-155233 or Herding et al. (US 5,547,481) in view of Kawaguchi et al. (US 6,615,243).

JP 8-155233 and Herding et al. '481 do not teach the filter element having heat resistance applied by impregnating the UHMW polyethylene fine powder particles with an antioxidant, but Kawaguchi et al. teaches impregnating polymeric filter material with antioxidants being routine practice in the art in col. 4, line 63 to col. 5, line 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the antioxidant of Kawaguchi et al. into the polyethylene particles of JP 8-155233 and Herding et al. '481 to protect the filter element from degradation, as taught by Kawaguchi et al. in col. 4, line 63 to col. 5, line 2.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Herding et al. '530, Hazeyama and Herding et al. '197 references disclose similar filter elements.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene  
Primary Examiner  
Art Unit 1797

  
1/20/08

jmg  
January 20, 2008